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ABSTRACT

The five papers presented in this volume consider the changing concepts, values, delivery systems, and needs for management which are a part of the changing context of postsecondary occupational education. Kenneth Hoyt discusses five basic kinds of changing relationships between education and work that have implications for changes, growing out of the career education concept, in the substance and methodology of postsecondary occupational education. Gordon Godbey offers his reflections on the changes in moral and social values of educators and educational institutions that will be required to achieve world-wide life-long adult education. Andrew S. Korim and Lucille W. Thrane consider that impact of career education as a stimulus to change in postsecondary occupational education, concluding that while there are promising developments and research efforts, inhibiting factors in federal legislation, financing, and the availability of reports of career education initiatives place the full impact of career education ahead of us. William Norris reviews the role and promise of PLATO as a delivery system for computer-assisted and computer-managed vocational education. Kathleen Arns describes the new management structures and management styles that will be necessary if community colleges are to provide for personal growth and development of faculty and staff and thus marshall their human resources to meet internal and external change. (JDS)

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The Eighth Annual Conference on Postsecondary Occupational Education: Accommodating Change in Postsecondary Occupational Education

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CONTENTS

Preface		v
Acknowledgments		vii
Implications of Career Education for Change in Postsecondary Occupational Education: Substance and Methodology	*Kenneth Hoyt*	1
Change in Postsecondary Occupational Education: The Need to Reorient Our Values	*Gordon Godbey*	13
Career Education as a Stimulus to Change in Postsecondary Occupational Education	*Andrew S. Korim* *Lucille W. Thrane*	23
PLATO: As Few Imagine	*William Norris*	45
Change and the Impact of Change on Community Colleges	*Kathleen Arns*	56
Concluding Remarks	*Robert Sheppard*	74
Appendix A: Conference Program		76

PREFACE

In recent years, the word "change" has become a byword in American society and in American education. It is mentioned so often as to make it familiar; it is occurring so often as to seem almost incomprehensible. It is out there running twice as fast just to keep in place like the Red Queen; and we are Alice, bewildered, and more than a little uncomfortable. Education has new concepts, values, delivery systems, instructional methods, and needs for management with which we all, as twentieth century educators, must cope more and more; and, it is hoped, better and better.

We hoped by introducing this theme to the Eighth Annual Conference on Postsecondary Occupational Education to put occupational education into the broader educational context and to view occupational education from within this context. We want to feel less bewildered, more comfortable, and more able to learn how to run twice as fast.

To this end, we asked the speakers whose papers are reprinted in this volume of conference proceedings to share with us their experiences and thoughts about various aspects of change in postsecondary occupational education.

Kenneth Hoyt leads off the volume with his reflections on the implications of career education for occupational education in terms of the attitudes and teaching-learning accommodations we must make. Next, Gordon Godbey shares with us his reflections on the values involved in making the change to world-wide adult learning. Andrew Korim and Lucille Thrane attempt to make Hoyt's remarks a little more specific by elucidating components of career education which affect occupational education. William Norris, of Control Data Corporation, informs us about a new delivery system, PLATO, and discusses its present and future uses. Finally, Kathleen Arns, shares with us recent psychoanalytically based concepts of management that allow us to think about how managers might

manage one of their most important institutional resources--people.

We hope that this thematic approach to the conference will provide focus and substance for your own professional development.

S.V. Martorana
Thomas Long
Seymour Brantner

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IMPLICATIONS OF CAREER EDUCATION FOR CHANGE IN POSTSECONDARY OCCUPATIONAL EDUCATION: SUBSTANCE AND METHODOLOGY

Kenneth Hoyt

Director, Office of Career Education
U.S. Office of Education

I am delighted to have a part in this program. Change is what your topic is, and change is what career education is all about. I know there are implications for change in postsecondary occupational education beyond those contained within the concept of career education. At the same time, I am equally convinced that the career education concept holds, at least, a significant number of the basic kinds of changes that should come to postsecondary occupational education. And, since career education is my area of expertise, I almost have to limit my remarks today to the implications of career education for change in postsecondary occupational education.

I see changes from career education in two basic dimensions. One dimension is substance, i.e., content; the other is methodology, techniques, approaches. These are two separate but related topics that I would like to spend a little time talking about in terms of their implications for change. I do so recognizing full well that any time change is mentioned, a lot of people assume that they do not want to change. I think we still have many, many people in this country more in favor of progress than in favor of change; and we

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NOTE: These remarks by Dr. Hoyt are off the cuff; they do not represent official policy of the U.S. Office of Education.

have a whole lot more people who, when they think about change, always think about people other than themselves.

A shorthand definition of career education could read as follows: *Career education is the total effort of the formal education system and the broader community to help all individuals--youth and adults--understand and capitalize on the changing relationships between education and work.* Currently, that is one way I am trying to define career education.

Having given you a definition of career education, I would like simply to talk about the implications for change in the areas of career education and higher education and career education and business, industry, and labor in terms of their substance and then their method of delivery.

In terms of substantive implications for change in postsecondary occupational education growing out of the career education concept, I would emphasize five basic kinds of changing relationships between education and work. Each of these, I think, holds fantastic implications for action changes in the substance of postsecondary occupational education. I emphasize that career education is in no way an attempt to introduce an emphasis into education-work relationships that has been totally lacking; career education attempts to help us keep up with the changes in the relationship between education and work. I see five of these changes in substance.

A Basic Education and a Desire to Work Are Not Sufficient to Get a Job

First of all, we are trying to change the general societal notion that says that people who have a basic education and a desire to work are going to get along all right. Many employers, for example, still say: "Give me the kid with the right attitude, who knows how to read and write, and I will teach him what he needs to know on the job." Others now say, "If you want to get a job, you must have a skill or set of skills that some employer is willing to pay for--whether you are a high school graduate, a community college

graduate, a four-year college graduate, or a Ph.D." Now this emphasis, this change, is going to have to come to all of American society eventually; yet, if you now tell this to a group of occupational educators, it is like bringing coal to New Castle. What I am trying to say, in terms of us, is that I think one of the problems we have in vocational and occupational education is recognizing that all of the cries we have been making for 30 years have suddenly been heard by the general public; and, now, they are asking us to put our actions where our mouth has been. They say, "Are you going to provide specific vocational skills that graduates can use to enter the labor market? Then where's your placement record? What happens to the graduates of this institution? What is the program completion rate? Where are the data?"

Proof of what I am saying is in the conference report on vocational education legislation recently passed. In every part of the vocational education section the Congress is saying: "If you want the federal dollars, you must provide the data about what happened to your graduates. Not pretend data, not aspirations, but facts. How many did you give skills to? What skills did you give them? How do we know those skills are current? How do we know they are in demand? Where are they in demand?"

Youth unemployment in the United States of America is the highest in the world and we are going to do something about it. Vocational education has an important, albeit not an exclusive, role to play in meeting this challenge. We must do more and better than we have done in the past.

A Skill Does Not Equal a Career

A second emphasis of career education has to do with the need to change a public attitude that says, "If you have a skill, you have a career. Go to school, get a skill, go to work. I think we have missed the boat in large parts of occupational education by trying to put too exclusive an emphasis on providing students

with specific vocational skills and not enough emphasis on adaptability skills. Relatively speaking, we have put too much emphasis on helping graduates get into the labor market and, relatively speaking, too little emphasis on helping them get along in the labor market, helping them change with change in the labor market. I am talking about what I would envision in postsecondary occupational education--an equality of emphasis between imparting specific vocational skills and imparting adaptability skills.

Now, when I say adaptability skills, I do not mean anything very fancy, but I do mean the basic *academic skills*--reading, writing, and arithmetic. But, more than the basic academic skills, I am talking about giving all students a reward for practicing good work habits, habits of productivity. I do not mean incidental rewards, but planned rewards, consciently emphasizing to all students in occupational education the importance of acquiring good work habits as well as specific vocational skills. I mean habits like coming to work on time, doing the best you can, and finishing the job that you start. I mean habits like cooperating with your neighbor, and habits like knowing that all of us, every one of us has a boss sometime, and sometime we will be asked to do something we do not want to do, do not see the need to do, and do only because somebody said, "Do it."

I am just talking about the basic work habits that have fostered productivity over hundreds and hundreds of years and which we tend to downplay in the interest of democracy, I think, more than we should. And I am saying I think it is time to go back to a reward system that emphasizes work habits as well as specific vocational skills. I think it is time to systematically talk to students about work and values. I think we are still Mickey Mousing around with too many students and asking them "What work do you want to do?" before they have answered the question, "Why should I choose to work?"

Why do people work? Why should you choose to work? It is not like 100 years ago or 200 years ago. Two hundred years ago pilgrims did not worry about

whether they would work. If they did not work, they starved, they froze. Now we have a choice; now we have to consider what would turn an individual on to work, what would make it work instead of labor, what would motivate that individual to keep on going? Those topics ought to enter into the substance of postsecondary occupational education right now. They are part of the adaptability skills.

I think another adaptability skill we are going to have to pay more than lip service to and talk about more than as an ancillary service is providing students with *career decision-making skills.* The trouble is they are going to have to make career decisions like "What is possible for me and what is probable for me?" and put that together in terms of "What am I going to do, what am I going to choose to do with my life?" and "How can I know who I am, how can I know why I am, how can I know what is a way that life can be meaningful and I can see myself as having a good reason for living and for contributing to this society?" These are decision-making skills, and I don't think decision-making skills can any longer be assumed to be automatic. I think we are going to have to teach them, and I think we are going to have to make them an important part of this total set of adaptability skills that we teach.

And, finally, of course, I am talking about purposely teaching students *job seeking, job getting, job holding skills.* I think we still have too many students thinking that placement is completely an institutional responsibility. I think there are too many students thinking about placement as a handout from the institution, rather than as a hand out to help that student take care of his or her placement needs. What I mean here is that I think the American dream, the American philosophy, is the philosophy of keeping the hand out, a helping hand to help; but it is not the American philosophy to give a handout. A hand out is not a handout! But I think these students, a lot of adults, all sorts of people have been forgetting these basic values. I am much in favor of changing postsecondary occupational education to emphasize placement as a hand out procedure, but keep it from becoming a handout;

and I am very concerned about moving placement the fullest extent possible away from something the institution does for the student and something the student does for himself with the help of the institution. I do not know if I am making sense to you or not, but I am very serious.

Learning is Not Just for High School Graduates

I have talked about the need to acquire specific skills and adaptability skills. I could include with those, the obvious implications for change in postsecondary occupational education that relate to the lifelong learning concepts. It is a third area of needed substantive change.

When you look at the data you see that in the 50s, 500,000 people entered the 25 to 39 age range; in the 60s, 700,000; in the 70s, 15,000,000. So we have gone from 500,000 in one 10-year period to 700,000 the next 10-year period to 15,000,000 in the 10-year period we are in now. Look at that fantastic growth and then consider how little change in postsecondary occupational education has been made to accommodate that. We all say "Yes, we are doing something"; we can point to something. I do not think we are doing half what we could. I look at the literature, I go to conferences all the time, and I conclude that we are still succeeding much better in emphasizing how young people make the transition from school to work than we are in talking about how they make the transition from work to school. I think we are still talking far too much about postsecondary occupational education as though it were something for youth, and we are not talking nearly enough about the need to involve much older adults in postsecondary occupational education. That need is continuing, and every projection you can see says it is, relatively speaking, going to get more pronounced instead of less pronounced. And yet, across the nation, in terms of all kinds of occupational education, the action implications of institutional change that should grow out of that one little, tiny statistic are not evident. I think it is about time we recognized it.

The Longer You Go To School the More Money You Make

The fourth change that we talk about in career education is trying to change the deep-seated American belief that those who go to school the longest make the most money. Many parents believe that, many students believe that, and many educators--who have numerous examples to the contrary--still believe that.

The actual correlation between number of years spent in school and economic income has been going down for 25 consecutive years, and it is still going on. Take a young adult right out of high school who says, "What I want to do is make the most money in the shortest length of time." If that is what he wants, plumbing school or TV repairing is better than a teaching certificate. These students have to realize that. Their parents have to realize that. The public has to realize that. I am clearly convinced that we are only at the tip of the iceberg in the United States about the oversupply of college graduates. The rise in unemployment of college graduates is greater than in any other segment. Their actual unemployment rate is not greater than that in the economy as a whole, but the relative rise is. I think many could not find jobs this year. When the students and the general public realize what is happening, post high school occupational education had better be ready, because it will have to expand dramatically.

I am very, very worried about this expansion because I do not see us getting ready for it and, given that lack of preparation, I am afraid any rapid expansion runs the risk of deterioration in quality. You build up so fast, and if you do not do it properly you tend to lose quality. You tend to say, "Sure, we can handle some more." But, after awhile, you reach a point where you cannot handle expansion as well, and you do need more instructors and more equipment and more space and more resources, and I have a feeling the demand is going to come on us faster than the resources all become available. And then we are going to get caught again.

Our last change, of course, is just as serious and it is just as important as any of the others in terms of substance.

Again, we are talking about the insides of people, not the outsides. We are talking about what they believe on their insides, not what they say on the outside. We still have a whole lot of people in this nation who believe on their insides that the very best educational and the very best occupational opportunities available in the great United States of America really ought to be reserved for white males. I do not just mean opportunities for getting in, I mean opportunities for going up.

I notice that the new legislation has dealt with occupational sex-stereotyping much, much better than it has with race stereotyping. This surprises me because one problem is not more serious than the other. They are different problems, but neither one is any less serious than the other; and, if you want to talk about post high school occupational education or secondary occupational education and ask if we have been guilty in terms of our action results, the answer is yes, yes. We can say, "No girl wants to be an auto mechanic"--I listen to that all the time and talk about it all the time--but the action figures are not there, and the action figures must show amelioration of both race and sex stereotyping by opening up opportunities for educational and occupational choice.

Now, in terms of substance, these are the five major implications for change that I see career education bringing to occupational education. Let me close by just saying a word or two about four implications for methodological change that career education, I think, brings to post high school occupational education. I am not talking about substance, I am talking about methodology.

Those four can be summarized in four words, one of which says *purposefulness*, one of which says *performance*, one of which says *variety*, one of which says *community*. When I say methodology, I am not talking techniques; I am talking basic methodological changes in the teaching, learning process. Techniques are just gimmicks.

Change in education means change in classrooms. The only real change that occurs, occurs in the classroom. All the rest is paper, tinsel. A real change comes in terms of the way teachers and students interact. And when I talk about change, that is what I am talking about--teachers and students interacting.

Now, I say there are four important concepts in methodology. First, I say *purposefulness and meaningfulness for both the teacher and student*. A career education, above all else, seeks to accomplish this in the teaching-learning process--to let both teacher and student know why they are meeting together and be convinced that it is important that they do so. I think we have overemphasized in recent years that part of what is wrong with American education is the fact that school does not make sense to lots of kids. I think we are going to have to face the fact that school has not made a lot of sense to a lot of teachers either. If the reason students and teachers were meeting was to get ready to work, that would motivate both of them. Now we in career education use that. We say that it is better than the average bear. If you do not want to use that one, then I would say, "Find another one." But find some way of making this content be important and meaningful and purposeful to both the teacher and student. Put students who want to learn with teachers who want to teach, and they *will* learn. And when either one of those ingredients is missing they will not learn as much. And we want students who want to learn together with teachers who want to teach. And that in terms of methodology is what career education is.

The second area that we are trying to really support is the idea of performance, the idea of

productivity, the idea of accomplishment, the idea of the work of the student and the work of the teacher. We are talking about making students want to work. But if I want students to want to work, I must give them credit when they work. I think we spend way, way too much time in that teaching-learning process showing students what they have not done rather than letting them discover what they have done. I think we spend too much time showing them what somebody did better than they did, rather than showing them that they did something. I think we spend too much time showing how much further they have to go rather than how far they have come.

If I want students to keep working, I have to give them credit when they have worked. So when they have produced something, if I want them to do more, I must give them credit. I am a great believer in performance evaluation, just as much as we can do it. Now I know it cannot be done all the way, but we can do a whole lot more toward performance evaluation than we have done. And I am very much in favor of such evaluation because it emphasizes, it gives a positive reward for accomplishment.

I use the word *variety* to describe the third methodological change. Now, if there is anything we have learned about human behavior that ought to be taken advantage of in terms of educational methodology, it is the fact that people do not like to do the same thing the same way all the time day after day. I think one of the biggest appeals that vocational education has to students at the high school level is that it is different from the academic course. I think a lot of students go into vocational education at the high school level, not because they have this big interest in vocational education, but because they do not want to do things the same way all the time. They would like a combination of learning to do with doing to learn. They like the idea of doing something with their hands as well as with their heads, and they like the notion that you can learn in more ways than from a book. They also like the idea that you can learn in more places than in a classroom, from more people than certified

teachers, and by more methods than just drill. Career education says: "In the teaching-learning process, let us introduce variety." Exactly what that variety is, I tell you in terms of increased achievement, is not as important as the fact that it is variety--variety for the teacher and variety for the student.

Now, finally, we want to talk about education-work relationships. In every community there are some people who did not go through the school of hard books like we did; they went through the school of hard knocks. And they learned some things that some of today's students need to know. They may not be able to say it with good grammar; they may not be able to say it very politely, but they learned it; and we ought to have a way for students to interact with them. You want students to learn to work; you know they need experience. Work experience has to become a general educational methodology, not just a program for a minority of the students. We must talk about work experience as an educational methodology.

We must increase work experience opportunities; we must use the community. We must get more community resource people in the classroom, must have more work experience in the community, must take more advantage of community opportunities for learning. We must quit isolating ourselves so much, as though we say we must do all of this special education in the institution, and recognize that some of it can be done in concert with community resources. The community resources are out there. They are what Bill Work talks about in his book, *The Boundless Resource*--this myriad of community resources in this business-labor community that could cooperate with the occupational education in the schools and be made into education for youth and adults, continuing education for youth and adults.

Those four words--*purposefulness*, *accomplishment*, *variety*, *community*--are the four words for methodological change that career education asks of post high school occupational education and of all the rest of education. I might add that the specific examples that I used today have come more from occupational education than some others. I can give examples just as well from the

liberal arts college or the elementary school. We are talking about the whole system, and we are talking about a need for change for all ages.

If I had any one caution to make, I would say, "Do not give me the response that you have already done it completely." If any of us had done it completely, the problems of this country would have been solved a long time ago. The fact that we have done some is indisputable. The fact that we have done enough, I think, is quite disputable. I am asking us to do more.

Thank you very much for listening.

CHANGE IN POSTSECONDARY OCCUPATIONAL EDUCATION: THE NEED TO REORIENT OUR VALUES

Gordon Godbey
Associate Dean for Continuing Education
The Pennsylvania State University

The Needs and Challenges of New American Clienteles

It is my intention to make two very brief talks and invite you to fit them together into one concept.

The theme for our conference suggests that change must be accommodated. We must behave in different ways in the future and must alter ourselves and our institutions to accommodate change. Like most themes for conferences, this one invites acceptance without thoughtful analysis and reflection. Let us be different and really examine the possible and appropriate meanings of this conference.

To begin with, what is meant and implied by "change" as it is used here? Are we suggesting that uniform change will occur in *all* forms of postsecondary occupational education? Or do we mean that change will not be uniform but will occur sporadically? Perhaps we mean that change will occur regularly in some kinds of postsecondary institutions but not in all kinds.

Perhaps we ought to inquire about the timing of this anticipated change. Will it happen soon or late? Suddenly or with ample warning? In the numbers of students, the age or sex distribution, in the backgrounds of the students or in their interests and abilities? Perhaps the changes referred to are to be in the kinds of work for which these students leave the educational institutions, and in the number of times during the working life of the person that he/she will require

further learning of new skills, new information, new attitudes. And, of course, we must inquire into the matter of who will be responsible for occupational education. Some evidence suggests that many profit-seeking corporations shall enter the field.

Without completely exhausting that aspect of the topic, let us consider briefly the use of the term "accommodate." This word means to adapt to, to become adjusted; to subordinate one thing to the interests and requirements of another. It suggests compromise or concession. What the conference planners have not indicated to us is the answer to the question: "Who submits to or accommodates whom?" Or: "What is adjusted to what?"

In my second little speech I shall describe a form of educational change through which we are accommodating a wide variety of changes in many aspects of our lives that will call upon us to make selections. At this point we appropriately enter the realm of values. If we are to accept and submit to change (defined as something different from what now is) and if we can pick and choose from among several forms of change, what are the values that guide our choice? Whose values are they? Who is benefited and pleased with our choice, and who is not? Our institutions are living evidence of choices among alternatives related to fundamental judgments and intents respecting what a society understands as being good, desirable, and beautiful, and what it believes to be true.

Let me digress to say that this is a matter of utmost practicality, something that should appeal to persons engaged in educating and training others for occupations. Our judgments regarding what is good and desirable and what is true, and the foundations out of which these judgments come, influence virtually every aspect of human life and thought. They touch every discipline, every training program, every occupation. The house of adult education is a veritable mansion, and in it is room for a variety of study and training. The various sponsoring institutions of the different programs of adult education give their characteristic stamp or hallmark to the activity in which they engage.

Universities today, by my judgment, are largely vocational schools; but, in many cases, the training for a vocation is at least partially indirect. To a certain extent, the real focus of the advanced student in the university is truth or knowledge; at times, we hope, wisdom. When the sponsor is a trade or industrial school, public or private, the primary focus is much more likely to be a usable or saleable skill, learned as quickly as possible. Volunteer adult education programs, sponsored perhaps by a library, a Great Books group, or some other community organization, may combine interests; but, frequently, the primary one is enrichment and is aimed at the person who, for reasons of necessity or choice based on other factors, was concerned first with the vocational or occupational skill.

Implications of Trends for Higher Education

In considering changes in postsecondary institutions, the changing nature of enrollments has very significant implications. Clearly both the educational program, as well as support services, will be affected. Concerning the latter, changes in residential and counseling services are illustrative of the many changes that will be required in efforts to meet the needs of the new clientele. Because of our time limitations here, we will direct our discussions primarily to the implications of the changing enrollments for the educational programs of institutions.

The work of K. Patricia Cross--in both *Beyond the Open Door* and *Accent on Learning*--is exemplary in this regard. Basically, Cross offers a pluralistic curriculum model--an "education for each," as she calls it. Students should not be forced one and all into the same mold. Rather, individualized instruction should be the room wherein the different talents and potentials of each student are allowed to blossom. I would go farther and also change the curriculum, making many opportunities open for teaching both skills and ideas, values and facts--the psychomotor, the cognitive, and the affective. And the student must learn how to

expand via lifelong learning into those gap areas not included in the resident or full-time program.

Cross outlines three basic competencies: (1) with ideas, (2) with people, (3) with things. She notes that most of the new students have aptitude primarily in the latter two areas. Additionally, she expresses the belief that it is precisely these skills that we are most in need of in contemporary Western society. Thus, she concludes in *Accent on Learning* by attempting to develop curricula for those persons she calls the "new students." In its most basic terms the Cross argument is that the one variable that most characterizes the students who are "new" to postsecondary education is that they are without academic ability. Cross notes that these students, in the lower one-third of their high school graduating class as determined by standard academic tests, can be described for the most part in the following manner: (1) their fathers usually are blue-collar workers; (2) their plans for postsecondary education usually include the public community college; (3) they are vocationally-oriented and they see postsecondary education as a way to a better job and subsequently an improved standard of living.

Cross makes the major point that in the future these "new students" will be the ones enrolling in postsecondary education in larger numbers. In a very real sense these new students are different--different from the type of student most institutions have served in the past. On the average, they are older, from lower socioeconomic backgrounds, more vocationally-oriented, and are more likely to enroll as part-time students. Clearly, such students will have new and different needs from those of the traditional college student. Colleges, universities, and other institutions of postsecondary education--if they are to be successful--must see to it that their programs speak to these needs of the new clientele.

Let us return briefly to the matter of the practicality of both knowledge and values. In his book, *An Analysis of Knowledge and Valuation* (1946), C.I. Lewis said:

> Knowledge, action, and evaluation are essentially connected. The primary and pervasive significance of knowledge lies in its guidance of action: Knowing is for the sake of doing. And action, obviously, is rooted in evaluation. For a being which did not assign comparative values, deliberate action would be pointless; and for one which did not know, it would be impossible. Conversely, only an active being could have knowledge, and only such a being could assign values to anything beyond his own feelings (p.3).

As we look at the underpinnings of occupational education, we begin to see the truth of this statement. We know different things, we value them differently, and we act, based on the things we value highly or less highly. We know, for example, that persons need certain knowledge and skills prior to obtaining employment in certain businesses and industries, crafts or arts. We place a high value on having a job, therefore we act to provide the skills and knowledge and attitudes necessary to get a job. We know also that the conditions of employment change. That people lose their interest in certain jobs, and desire different jobs. In order to cope with these conditions we recognize that we value *highly* the opportunity for people to make such changes. We place low value on the conditions of unemployment, particularly when we believe that they are preventable by training and education. We therefore act to provide career-change education and training to facilitate employment to a greater level of the person's potential. This is called continuing education. In this manner it is easy to see that the value foundation of the human enterprise called education is tied directly to the pattern of knowing, valuing, and acting, and that we also see institutions of education as deliberate instrumentalities for producing desirable conditions in the human experience.

An educational institution with its programs for students is a deliberate, intentional selection of a course of action based on the belief that it is desirable and worthwhile, and the whole enterprise rests on a prior principle or value. This principle is usually established in terms either of the good of the student, or the good of the society within which the student and institution operate, or both. (We might say parenthetically that there is also an element of concern for the good of the educator, although this is not often brought to the front.) A question which most institutions and persons teaching occupational knowledge and skills fail to ask themselves is in regard to the *moral nature* of what they are doing. They usually take the desirability of their action as a given; if, indeed, they think about the matter at all. Even in this troubled time of skeptical relativism, most people in "edubusiness" assume that their effort is right and good and desirable for both the provider, the student, and society at large. Even as moral autonomy shows up in a degenerate form of irresponsible privatism, educational institutions assume their own rectitude and the desirability of their enterprise and go along untroubled. In the late sixties a great many students forced some institutions, particularly universities, to reexamine their stance, but they did not materially change the situation. Only a modest accommodation was made to attempt to change life patterns. So we see that certain kinds of change are not inevitable. And when change does occur, it is sometimes reversible!

Most institutions and faculty in occupational education look to the ground instead of the horizon, and do not see the frightening shadows of the results of radical individualism. It is all well and good to train people in communications industries, metal and woodworking, electrical trades, computer science, etc.; but if we do only that and ignore the increasingly complex, and increasingly moral, nature of the public issues which those students have to face as workers and voters, we are properly charged with not doing enough. The graduating students, indeed the nongraduating students, along with the rest of us are faced

with questions of justice and law, overpopulation of a modestly small planet (with resultant starvation and inadequate supplies of fuel, fibers, etc.), the pollution of the ecosphere, wars of all sizes, the mistreatment of groups of people by other groups of people, and similar issues of a moral as well as practical nature. These issues cannot be satisfied by irresponsible privatism or moral or value ignorance. Here we must accommodate change and do so very quickly.

I take it as irresponsible evasion for someone to say "But our faculty are not equipped to deal with this!" It is the business of education to upgrade and give *further* education to its *own* members, as well as to the general public. Adult education cannot be properly defined as something you do to somebody else.

By now it should be amply clear that my concerns with occupational education--secondary, postsecondary, lifelong--are *not* first with the techniques of teaching the crafts, skills, knowledge, and arts of the enterprise involved. My concerns are *not* first with problems of testing, problems of certification, problems of student-instructor ratio, PPBS, IGE, etc. You are probably doing these things adequate to the task. It is entirely possible to have a well-run school with faculty highly trained in the minutiae of the jobs, but to have the whole enterprise couched in an immoral or amoral society. Anyone who doubts this has only to look at the very good occupational schools operated by the Nazis prior to and during World War II. We have it within our competency to provide more and more people with goods and certain services through mechanical-electronic-technological devices. Do we have it within our grasp to provide a sane, responsible society of people living and letting live, in a way that fulfills the potential *so long promised and so long denied?* We will not move closer toward this ideal without fundamental *changes* in the thinking of persons responsible at all levels for occupational education.

A few remarks now will be offered about that rapidly growing enterprise, international and world-wide in scope, which is referred to as *adult education*. It is by this device--adult education--that nations, rich and poor, are attempting to accommodate, to adjust to, the serious problems which threaten us and to chase the dreams so long held out.

Higher education and postsecondary education are aspects of adult education, although they often do not find it comfortable to admit it. And, in some cases, the way they treat their students would suggest that, indeed, they are *not* considered as adults.

There are many terms used in relation to the education of adults, including life-long learning, further learning, repetitive education, continuing education, and, of course, the generic term adult education. [Usually this term refers to structured learning, deliberate in nature, but less than the full-time occupation of the learner. In recent years, however, the term has come to include even some full-time learning situations for adults.

My earlier comment about higher education suggested that the term "adult" would include college students. It often does; the UNESCO definition of an adult is a person 16 years of age, or older.

Some of us at times have difficulty in separating the process from the content. We talk about adult education as a function, and study the models, the methods, the administration, the financing, the curricula, etc., in much the same way we study elementary or secondary education. At other times, we become involved in consideration of the ideas, knowledge, skills, attitudes, etc., that are taught to adults. Much of this content is so interesting, and is advanced with such fervor by its advocates, that we speak of the content as adult education. Whether the particular theme is "equal treatment for ethnic groups," "the conditions of the biosphere on our small planet,"

"the status of women over the globe," or "contemporary drama," we get caught up in the theme and carried beyond our professional study of education itself.

Adult education carries a more urgent load of hope and expectation than does the education of children and youth in many parts of the world. To begin with, some persons believe that unless we quickly educate millions of people to demand an end to the insane proliferation of nuclear bombs, there may be no "coming generations." And here let us note that adult education carries often a clear call to action, even dangerous and revolutionary action. *Knowing* that A- & H-bombs can wipe out all life is not sufficient. We must value that knowledge, and then must let values guide action. (Permit me to recall to you my first speech!)

If you want an example of how adult education can be seen at once as a threat and a promise, look at what happened in Brazil over the last 10 years. Paulo Freire, a man who looked at the millions in Brazil who were in miserable condition and said, "Education for these adults is a way out," immediately set out to do something about it. He developed on his own, with the limited backing of the government, attempts to teach the poor. His effort was seen as a threat to the rich and he only escaped the country just ahead of the gendarmes. Because, you see, poor people who begin to be educated will read Karl Marx and the Soviet adaptation of him, and they will read the Chinese writings and look at the central government and ask, "Why do 3 percent own 80 percent of the wealth? Why are you riding around in an air-conditioned Mercedes-Benz and we are starving?"

Similar questions apply to the United States. If education in this nation can include facts about the treatment of, or lack of concern for, employees by certain large, powerful corporations, are you free to teach that? When a mining company dumped asbestos fibers into one of the Great Lakes, causing disease and contamination in thousands of people, did it cease when the knowledge of its acts became known? How does adult education deal with questions of morality, such as the "Good for whom?" questions, as in the pollution case above.

I think these are the basic questions we are trying to deal with.

As you reflect on these talks ask yourself: Can we provide both the skills and knowledge which occupational education teaches, without neglecting to create a longing for, and commitment to, lifelong learning? Here, it seems, is the place for long-range, personal development which is not given in the few years of occupational training. This concept recognizes the truth of this aspect of adult education: that each of us must find his own way, dream his own dreams, and accept what society says he has earned. Adult education, done well, helps each of us to accept whatever life gives him, and finally to accept the idea of his departure from life itself.

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CAREER EDUCATION AS A STIMULUS TO CHANGE IN POSTSECONDARY OCCUPATIONAL EDUCATION

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A substantial proportion of American workers today find at least some postsecondary occupational training necessary. Vocational-technical education programs at community colleges, junior colleges, and technical institutes play a significant role in this requirement.

In terms of this conference the question arises: How much of a role does career education play as a stimulus to change in postsecondary occupational education?

I. *Antecedents of Career Education*

Historically, postsecondary education in the United States has been linked to the world of work.

Under the Morrill Act of 1862, land-grant colleges were created to better prepare farmers to perform their farm tasks, to be more productive, and to enhance rural life. Eventually these institutions added liberal arts components and research components, but they maintained agriculture and engineering studies for men and home economics and business for women. Other four-year

programs such as those in normal schools and nursing schools have always been inherently employment oriented.

Junior colleges popularized the associate degree with two-year curricula, a degree designed to prepare individuals for a variety of business and industrial careers. In recent years, two years of post high school education has given rise to associate degree programs in "work-related" curricula. With the popular emphasis on the necessity for higher education, technical institutes and community colleges have become the main vehicle for most "work-related," non-high school students to acquire an education. Also, two-year institutions began in the 1950s to develop occupational emphasis in liberal arts settings without fanfare and often by reallocating internal funds to occupational priorities.

Traditionally, the diploma schools of nursing, proprietary trade schools, and armed services training classes have been related to the "career emphasis" predominantly found in today's postsecondary institutions.

In the 1960s, a series of Congressional acts provided federal support to the training of all individuals for at least entry-level positions. These acts include the Manpower Development Training Act of 1962, the Vocational Education Act of 1963, and the Economic Opportunity Act of 1963. Each addresses the preparation of individuals for entry into the labor market and provides training and education to facilitate placement of persons into productive work roles in an economic setting. Concepts such as *new careers, public service careers, cooperative education, career guidance and placement services, area manpower planning councils,* and *job engineering* were clearly defined and were being implemented prior to the popularization of the concept of career education in the 1970s. In fact, it might be accurate to say that success of these concepts gave a foundation from which career education emerged.

Sidney Marland is frequently given credit for launching the current wave of interest in "career education." In the early 1970s when, as commissioner of education, Marland challenged education to seek out

alternative methods to meeting the need for meaningful and relevant educational experiences. During Marland's term as commissioner, the movement and monies from the Office of Education and the National Institute for Education permeated much of the national educational establishment.

In August 1974, President Gerald Ford reinforced the need to build bridges between education and work when he proposed "a great new partnership of labor and education" at The Ohio State University, shortly after being installed as president. A number of initiatives around the country resulted, as the dialogue between education and labor became accelerated. New curricula in labor studies, apprenticeship training, and specialized forms of cooperation were developed and/or strengthened, particularly in community colleges and technical institutes.

II. *Promising Developments*

The career education movement has contributed to a number of developments that, in our opinion, promise to have lasting impact on postsecondary occupational education. Career education has also reinforced other concepts and values of our educational system. Those of importance will be discussed below.

Job Satisfaction

Research has shown us the qualities that are important for people to gain satisfaction from their jobs and which contribute to the quality of life in our society. These include: (1) economic security, (2) recognition and approval, (3) mastery and success, (4) control over things and people, (5) social status, (6) self-expression, (7) satisfying personal relationship, (8) companionship/camaraderie, (9) service to others as a result of labors, (10) creativity, and (11) independence. Career education has brought these considerations out into the open and is making both

employer and employee more aware of them. Career education is saying that it is important to earn a living, but other satisfactions are just as important.

Work Ethic

Although limited in scope, the work ethic has been infused into postsecondary education in recent years. General education curricula especially have given more attention to work-related themes. This development has strengthened the occupational education focus of comprehensive institutions.

Needs Assessment

Career education requires current information about employment opportunities in the communities in which educational institutions exist. Because needs assessments are a vital tool in sound planning for occupational education, occupational education will benefit as needs assessment tools become improved to serve career education needs.

Credit for Life Experience

Increasingly, prior life experiences of students are seen as advantages with which a person begins an educational program, and these have begun to be translated into credit by pretests. This practice is congruent with career education's recognition of the wide array of influences and experiences that affect career decision making. As credit-for-life-experience becomes a rule rather than an exception, occupational education programs will undergo significant changes in duration, courses required, and emphasis on related work rather than skill development.

Cooperative Education

Long before career education emerged as an identifiable educational approach, cooperative work experience arrangements were an integral part of postsecondary occupational education. Career education, through its focus on exploration activities, has popularized the need for integrating education-work-community linkages into the learning processes. It has developed linkages to business firms, labor unions, government agencies, and volunteer organizations that constitute important resources for both career education and postsecondary occupational education.

Industry Exchange

In the last 10 years, postsecondary occupational education has depended heavily upon industry as a source of its faculty. But industry complains that once these former industrial employees become teachers they never return to the world of work to find out what is going on. The increased dialogue between education and industry stimulated by career education may facilitate a two-way exchange.

Competency-Based Education

It is difficult to identify the origin of the competency-based focus. The military have for at least three decades depended on competency-based training as a means of developing functional personnel in various technologies. Although career education cannot be credited with initiation of the concept of competency-based education, the career focus does draw attention to the fundamental question: Education for what? The need to produce productive individuals whose work performance does not require training upon job entry has become a goal of occupational education. The career education dialogue has contributed to consciousness

that educational programs must have a close relationship to both productivity in the world of work and satisfaction in terms of personal ambitions.

Career Centers

One of the direct benefits of career education has been the growth of career information centers. Whether called "career resource centers," "vocational opportunities centers," or "career guidance centers," they have advanced the basic technology of career selection. The spin-off gains for postsecondary occupational education are obvious. As the career education movement continues, we may expect the career selection process to be increasingly refined.

Task Analysis

Curriculum planners have turned to task analysis as a tool in the design of occupational curricula. Modularization of curricula has resulted. in our opinion, career education has indirectly fostered the development, as students raise questions of guidance specialists on precise details of job functions.

Career Ladders

One of the criticisms of training and make-work programs under MDTA and now under CETA--and other legislation designed to put unemployed persons to work in government-created jobs--is that these programs lead to a dead-end. Postsecondary occupational educators have been sensitive to this effect because it is contrary to the philosophy of postsecondary occupational education. The very concept of "career," because it implies progressive advancement, emphasizes long-term growth and enhances the development of alternatives to so called dead-end programs such as career ladders and career lattices.

Job Engineering

Job engineering is cooperation between educators and employers in placing technicians and paraprofessionals and other graduates of associate degree and certificate programs in positions previously limited to professionals such as engineers, scientists, and physicians. Career education is playing an important role in the overall trend toward this new cooperative effort, yet in its infancy.

Lifelong Education

With the growing awareness that career decisions are a lifelong process, by no means a one-time decision, lifelong education becomes promoted by career education and much of postsecondary occupational education has become lifelong in its focus. This focus will widen as older persons turn more and more to education for assistance in redirecting their careers and in developing second careers following forced retirement or skill obsolescense.

Mainstreaming Occupational Education

One of the most significant contributions of career education has been integration of the once isolated vocational component of education into the academic mainstream, into liberal education. Career education has made acceptable the long-standing vocational practice of introducing practical, job related aspects into the curriculum. As a result of vocational students attending classes in the academic curriculum all students are becoming more aware of job possibilities. The full effect of this process has not been realized. In our opinion, although general education still is considered the regular program of our schools and colleges, some shift in this attitude is occurring.

Recurrent Training

More and more the entry-exit-entry-exit educational pattern has become acceptable as a means of staying current. Occupational programs are no longer considered "terminal." We feel that career education has contributed to this change.

Although most of these 13 developments cannot be attributed directly to the career education movement, the career education movement reinforces them and gives impetus to occupational preparation as a mission for postsecondary education, regardless of the curriculum. Career education has also enhanced the level of sophistication of educators regarding the labor market and the process by which education and labor market linkages may be strengthened.

Obviously, occupational education in technical institutes, community colleges, and junior colleges has benefited from the career education movement. Specifically, the benefits may be stated as follows:

1. Career education concepts are transferable to occupational education.

2. The career education emphasis has reinforced career preparation as a bona fide educational objective.

3. Career education has brought attention to the economic value of occupational education and devalued education lacking preparation for the labor market.

4. Career education (K-12) has generated a flow of students for postsecondary certificate and associate degree occupational programs.

5. Career education has facilitated interaction among the various elements of the education community and the principals of the labor market--employers, employees,

unions, trade associations, professional organizations, and employment agencies.

6. Career education has contributed to the unification of occupational education and general education.

III. *Research Efforts*

A search of recent ERIC files reveals 30 references to career education that relate to postsecondary education. A large percentage of the references may be categorized as statements of opinion that give arguments in favor of career education. Another group of references may be categorized as only marginally related to career education. Two entries report on state career systems in California and Utah. The California entry reported a study of career centers; the Utah reference consisted of that state's plan for career education. It becomes apparent that there are only limited hard data on the impact of career education on the decisions of students.

Career education has had a significant impact on the efforts of research and development organizations that serve postsecondary occupational education.

Center for Vocational Education (CVE)

At CVE, the Comprehensive Career Education Model was designed and tested for school career education programs. The model includes 30 career education curriculum units, 11 staff development programs, 1 community development mode, and a set of guidelines for developing local career information systems. Content ranges from specific subject matter, such as mathematics, to guidance-oriented concerns such as values. In addition, CCEM has developed 12 occupational exploration simulation models, one for each of 12 career clusters. These simulation units

enable the school to role play an occupation that might not exist locally.

Seven simulations--construction, manufacturing, education, trade and finance, communications, health and welfare, and public services--have been pilot-tested; 4 have been revised. Personal services, arts and humanities, recreation, and natural resources modules will be completed within the next year.

A community involvement handbook and a prototype of an occupational information resource handbook also are available. School districts purchasing the first module will find information necessary for involving parents and community groups in their career education programs. The second module will explain how to establish a resource center or library on occupational education.

The Center has outlined a plan to develop curriculum materials for occupational exploration. The strategy enables students to explore jobs in 12 occupational clusters and relate them to personal interests and abilities. The program involves both group and individual activities.

More than a dozen products that relate to postsecondary occupational education have been produced at CVE as a result of the career education focus. These are listed in the bibliography.

Alliance for Career Education

The newly created Alliance for Career Education offers its seven member schools (secondary schools) a pool of resources and a chance to share existing ideas.

The Center provides corporate members with consultation and materials in the four primary areas of curriculum, staff development, occupational exploration, and career planning systems. The Center also trains school staffs to work effectively in these areas.

Expansion to include a postsecondary career education alliance is being considered for next year.

Plans to expand ACE into occupational postsecondary programs is under consideration.

Mini-Conferences

A report by Dr. Richard Miguel (1976), director of Career Education Mini-Conferences, states:

> Twenty-seven mini-conferences were conducted in three phases with the Director of the Office of Career Education, U.S. Office of Education serving as conference chairman. Nine topical areas were considered as they apply to career education: teaching/learning process, evaluation, counseling, business/labor/industry involvement, parent involvement, handicapped students, female students, gifted and talented students, and minority students.
>
> Phase 1 examined these topics from the practitioners' view point; Phase 2 considered implications for state coordinators of career education; and Phase 3 examined the topics from a national perspective as conceptualizers and executive officers of national associations made suggestions and recommendations.
>
> This project also organized orientation and follow-up meetings for directors of projects funded through the Office of Career Education, U.S. Office of Education.
>
> Two-hundred-sixty-one participants, representing all fifty states, Puerto Rico, and the District of Columbia were convened at the mini-conferences. All project directors, except those with very small funding, attended the project directors' meeting.
>
> Each conference participant was asked to complete a questionnaire regarding his/her perceptions of the outcomes of the

conferences, suggestions for improvement, and issues in need of further investigation. On the whole, each conference was rated as being very worthwhile to the participants, although conferences on women and minorities felt that issues could have been discussed more thoroughly and at great length. The main criticisms on that score centered around "insufficient time."

Without exception, participants endorsed the concept of developing a dialogue between their respective groups and the Director of the Office of Career Education, and felt that it should be continued.

Perhaps the greatest benefit of the conferences to participants was the vast amount of innovative ideas on practice, administration, and involvement of groups other than educators in career education. Most of the participants mentioned this in their conference evaluations. The products of the conferences, project reports and the USOE monographs that became an outgrowth of the mini-conferences, are receiving widespread use. Many state coordinators of career education, association officers, and practitioners indicated that they were disseminating them to their constituents.

IV. *Some Concerns*

The full impact of career education as a stimulus to change is ahead of us rather than behind us. The impact to date could have been greater, but a number of factors inhibit full benefit:

1. ERIC has *little significant literature* on career education related to

postsecondary education. Either literature is nonexistent or ERIC does not draw postsecondary papers and reports about this subject.

2. There are *no national longitudinal studies* about impact of career education on students and the labor market experience of graduates in occupational education vs. that of traditional liberal arts graduates. Our search of ERIC found only one study conducted by State Fair Community College (Missouri), that traced post-high school decisions of persons participating in high school career education.

3. The *distinctions between "career education" and "occupational education" remain confusing.* In many quarters the concepts are used interchangeably. It seems safe to say that a large number of people in and out of education do not know what career education entails.

4. *Labor market information systems fail to provide adequate data* on emerging and declining careers, thereby negating prospects of informed career education guidance and decision making. At some point in the future, labor market information systems will probably give us better signals: in the meantime, career decision making will be imperfect at best.

5. *National legislation is generally unresponsive* to the distinct needs of postsecondary career and occupational education. The end product of the deliberations on the Vocational Education Amendments of 1976 has very little in it to suggest that Congress is sensitive to the priorities of the postsecondary community.

6. *National education and training resources* represented in legislation such as CETA, VEA,

CEA, AEA, ESEA, HEA, SSA, PWEDA are not coordinated and considerable waste occurs. As Congress creates new legislation, little thought is being given to the problems created by failure to consolidate legislation.

7. *The Office of Career Education has had only superficial leverage* in the postsecondary community. Most of the efforts of the Office of Career Education address career awareness and exploration in K-12, ignoring the post-high school populations.

8. *Lack of interaction among state postsecondary agencies* responsible for career education, secondary vocational education, and post-secondary occupational services has damaged the image of education in the eyes of the tax-paying public and the users of educational services. Gaps in services, wastes in use of resources, and simple confusion characterize many states as a result of the lack of collaboration by state officials.

V. *Financing Postsecondary Career Education*

Another factor limiting the development of post-secondary career education is the minimal amount of federal funds directed into career education. Non-career education resources have had a greater impact in producing change in postsecondary education.

NIE's huge investment in career education has focused on K-12, with no recognizable effort to address the transition of a person to postsecondary education.

The Office of Career Education, until it awarded a contract to demonstrate career education at a community college site this past summer, was not known for a focus on the issues and concerns associated with infusion of career education into post-secondary education.

FIPSE has focused on competency-based education, experiential learning, and innovative arrangements with employers, but the resources of FIPSE are extremely limited relative to the range of postsecondary priorities.

BOAE gave considerable leadership with its career cluster research. Most notable is the extensive development of guidelines and supportive materials for the public service careers. Again, the emphasis is on the high school student.

Under Part B of the VEA, which sets aside monies for postsecondary education, some states such as Pennsylvania have made great strides in stimulating career-related support services in community colleges. A case in point is the Vocational Opportunity Center at the South Campus of Community College of Allegheny County.

Under Title III of the Higher Education Act, the Bureau of Postsecondary Education, through developing institution grants, has provided the financial means to a limited number of institutions to introduce career related priorities into the services provided students. The primary focus of the developing institutions program is not on career education, however, except as an institution may select this as a priority.

One of the most creative uses of federal funds for stimulating career programming has been the Title I Community Service Program under the Hughes Education Act. In a number of states, Title I funds have had significant impact on occupationally oriented programming.

Similarly, under the Comprehensive Employment and Training Act, local prime sponsors have been an important source of change-producing funds for community colleges, technical institutes, and junior colleges.

The cooperative education provisions under Title IV of HEA have given postsecondary institutions resources to strengthen the work experience components of occupational programs not supported by other sources.

VI. *Measures Proposed*

If the career education movement is to have extensive impact on postsecondary occupational education, aggressive measures must be initiated. We propose that a plan of action be developed to include:

1. A national assessment of the extent of impact of career education on the postsecondary community.

2. A deliberate program to identify, retrieve, and enter into ERIC and AIM/ARM reports on postsecondary career education initiatives.

3. Identification of exemplary postsecondary innovations pertinent to career education and dissemination of the details of these cases.

4. Development of strategies to adapt to postsecondary education the innovations and products produced by the federal investment into research and development for K-12 career education.

5. Reduction of the disparity in federal investment in postsecondary education relative to K-12 investment.

6. A postsecondary professional development program to strengthen administrators, guidance personnel, and faculty involved or interested in career education, occupational education, and ancillary services.

To ensure that this plan of action becomes developed and implemented, a national program for strengthening postsecondary career education is needed. We are pleased to report that The Center for Vocational Education is in the process of exploring the possibility of developing such an effort using its experience in career education as a foundation.

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PLATO: AS FEW IMAGINE

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Whenever I start a speech, I normally express the pleasure of being part of the program. This is more than mere pleasantry because speeches, at least in my case, are voluntary and nearly always enjoyable. But this occasion is purely a special one. What makes it special is my long standing and deep interest in education, particularly vocational education, an interest that has a variety of origins and just as many manifestations. One is being the parent of eight children. Another is my personal involvement with Control Data educational activities relating to our program for establishing vocational schools in lesser developed countries. Then there is the 14-year development program that we have had underway in computer-based education. We are operating a network now of 26 computer-based learning centers, consistently promoting better skills and training for our 43,000 employees. We have several education-based social benefit programs. I am also an occasional writer and public speaker on the subject of education, and I do participate in some activities involving higher education. To comment a little bit further on some of these interests--in the case of my children, three thus far have attended vocational schools. I will comment only on one, a son, who has graduated from Control Data's Vocational Institute and is now a customer service engineer for another company. He had learning problems in his

early years and a vocational education has provided a path to what seems to be a very successful career for him.

The vocational schools of the Control Data Institute were established primarily so that we would control the improvement of the quality and productivity of our work in applying computer technology. All of Control Data's U.S. schools are now in the process of introducing computer-based education into their curricula. Control Data educational programs for the developing countries have the long-range objective of achieving widespread use of computer-based education in those countries where it is really the only practical way to solve the teacher shortage and to provide the desired level of education. Our present efforts have to be limited to prepare them and ourselves to move a step at a time toward the full implementation of computer-based education. The first step is individualized vocational education, and our principal effort at present is a contract with Iran to establish four model centers for vocational education. The centers are structured almost entirely around nontraditional individualized learning, and they will be among the most advanced centers of this type in the world. As soon as successful operation of the centers is achieved we will start to introduce computer-based education and we have similar projects under development in a number of other countries.

Computer-Based Education: Some Definitions

Now, before I elaborate on the use of computer-based education in vocational work, I think some definitions and background of its status would be helpful so we all have a common reference point. My use of the term computer-based education, or CBE, includes both computer-assisted instruction, commonly called CAI, and computer-managed instruction, or CMI. Computer-assisted instruction provides on-line instruction that is integrated with the conventional

and multimedia, off-line learning activities. Computer-managed instruction leads the students, who systematize instructional modules, by analyzing student needs, describing appropriate learning activities, and evaluating student progress.

PLATO: in Business

There are several commercially available CBE systems that provide computer-aided instruction through drill and practice, as well as CMI, computer-managed instruction. Today, however, I am only concerned with the Control Data PLATO System because it is the only one with the interactive and other enriched capabilities that make possible the uses and vocational training that I will be talking about.

It is really not possible to describe briefly the advantages of PLATO because it is so versatile. Oversimplified, PLATO, at first glance, is seen to have infinite patience, the epitome of personalization, nearly a limitless versatility, and uniformily high quality delivery. But it is much more than that: it is a multimedia, multistructured knowledge, fact, information, and educational delivery system of the first order. It offers the promise of profound and beneficial impact on the delivery and application of knowledge in ways that free us from the fetters of an educational process virtually unchanged from the days of its great namesake-teacher, Plato. It is applicable to any information-based or knowledge-based service that involves exchange of facts and/or their manipulation for the purposes of learning. It can operate one-to-one, like a telephone, or one-to-many, like radio or TV. In addition, those many can interact with the one or interface with many others. With audio and visual, it is a communication system with virtually inexhaustible and unerring memory and the ability to exercise an agreed upon logic. It is a profound, transportable, lasting, dependable, 24-hour a day, seven-day-a-week worker.

It costs less and less each generation, and it can be consistently excellent. Perhaps, most important, is its capability of coming to terms with two of the most frustrating but desirable goals of educators; namely, true individualization of learning and genuine equalization of educational opportunity.

PLATO is available today in the United States either by purchasing a system including its own computer or through a nationwide learning center network. As was mentioned earlier, there are now 26 learning centers in operation and more in the offing. The main course offerings of the learning center network are devoted today to training for industry, whose most urgent need is improvement in productivity, for which employee training offers the most potential. CBE has now reached the stage of development where it is cost-effective for many types of employee training. One reason, of course, is that employee time and training is a definable cost to a company, and computer-based education saves time and improves learning. Additional savings will appear as the cost of its advanced technological components are reduced further by development. Actually, within a few years, training will become available in many communities with cable TV, via the learning center network of portable terminals used in the home, terminals especially popular with small businessmen. Considering how badly small business is hurting these days for capital, yet how eagerly it spends scarce dollars on CBE, the courses must be effective. In sight-controlled data, CBE is used extensively and effectively for employee training. We have had more than a thousand completions of our basic management training course, and CBE is also being used in many other areas, including the training of computer programmers, salesmen, and customer maintenance engineers. In 1977, substantially more training will be completed at a higher quality and for less cost than in 1976.

The other areas of education where PLATO CBE is now cost-effective, in addition to business, are in special education and selected areas of vocational training. By special education, I mean those programs within established education designed to deal with the learning disabled, the physically handicapped, the incarcerated, the skill deficient, and the gifted. As you are well aware, special education today is costly as well as terribly frustrating and time consuming for teachers. The individual testing, prescribing, feedback, record keeping, and analyzing require too much time, effort, and patience to be done effectively by hand. The computer, however, has infinite patience, does not neglect any of those chores in favor of something more interesting, and is private.

The pacing factor in getting widespread usage of CBE is the availability of courseware. Special education has a very high priority with the United States government and substantial resources are being committed to it. Computer-based education is now becoming cost effective for those areas of vocational training where simulation can replace hands-on hardware experience; e.g., in training for the maintenance of TV equipment, electronic instruments, computers, and many types of mechanical devices. For example, in our own maintenance training, much of the actual hardware is not required as its functions can be simulated by much less expensive equipment. Malfunctions for training purposes can be more easily introduced and the progress of students in finding them more readily followed. The students needing help can be quickly identified and assisted, so a lot of time is not lost in unproductive effort. I am convinced that the great effectiveness of computer-based education and simulation, an effectiveness fully appreciated only through a physical demonstration, is destined to find widespread application.

Now, special education via computer-based education can also be discussed in connection with vocational education. CBE can be used today very effectively to help those students who lack the necessary reading, writing, or mathematical skills to realize fully their natural capability, or those who are failing, or those who have already failed and dropped out. Six hundred hours of courseware to develop basic language and arithmetic skills are either now available or will be next year. The sources of this courseware include the University of Illinois, Control Data, and, I am very pleased to say, a cooperative project between Control Data and Dr. Heimer here at Penn State. The Penn State part of the courseware, consisting of more than 100 hours of basic mathematics, will be completed by April 1977. The Illinois courseware is being used successfully today for remediation at two Illinois correction centers, Viana and Minard, and preliminary results are most encouraging. At Minard, a sampling of 64 inmates taking the GED test show that the success of those receiving PLATO instruction was 50 percent higher than those taking traditional instruction. Sixty-seven percent of those on PLATO passed the GED, whereas only 46 percent of the others passed. And here are some quotes from inmates:

> I like PLATO, mainly because it taught me an easier way to remember the rules of commas without a lot of interference from other and brighter students in the class. That was one of the main reasons for my leaving school in the first place.

> I like the way PLATO shows you how to do the thing that you don't know how to do. It will correct your mistakes and you don't have to be ashamed. There's no one to make fun of you.

> PLATO's faster, and you can learn at your own speed. If you have difficulty with a section, you can spend more time with it. You don't have to take up the teacher's time or hold up other students.

Recently, the Minnesota Corrections Department placed a contract with Control Data to install CBE terminals in the Red Wing Institution for young offenders and in the Stillwater Prison for adults. These projects are now underway, using the Illinois courseware. An initial reaction by the teachers is good, and the inmates show very high motivation. Also, the Minnesota Department of Education, with HEW funding, has contracted with Control Data to assist in adapting a language arts curriculum for computer delivery to junior high school students with learning disabilities. Initial development work will be completed this fall, and the program is expected to be ready for students in February of next year.

"Another Chance": PLATO for High School Dropouts

Well, clearly the use of CBE and special education is barely begun. Experience thus far, however, plus the accumulated experience of computer-based education and other areas of education, has led us to the conclusion that Control Data should take an aggressive initiative by proposing a large-scale program for federal financing. The objective would be to provide remedial help for 16 to 24-year old high school dropouts and those inadequately prepared to enhance their employability through vocational training. We call it "Another Chance" program.

There are several levels of effort envisioned: the most comprehensive projects are to enroll 1,000 to 1,500 students in the 16 to 24-age group in each of three cities and provide assistance over the range of remediations, vocational education, career counseling, and assistance in gaining employment.

Smaller remedial projects would be offered through our learning centers. These are existing downtown storefront centers, or yet-to-be-developed additional centers. They would be attractive to young people who have come to realize that they need additional education. These centers will be specifically designed to be different from the traditional school environment that some students associate with their earlier academic frustration and failure. A new setting, unique delivery system, fresh materials, additional auxiliary services, and more material motivation have to combine to insure productive results.

Another kind of project would involve small learning centers established within high schools or community colleges. Admittedly, this is a very large and extremely difficult undertaking, and it will require many millions of dollars of federal funding. However, it is a massive problem requiring massive resources. The simplest, of course, would be to set up a few small learning centers. After a few years, the results would be available for all to see. We reject this approach because several years would be lost in arriving at acceptable evidence. And even then, because it is so difficult to communicate within our society and education is so fragmented, many more years would have to pass before any concerted action might begin. So, the appropriate action to be taken seems clear--move ahead with large scale projects and build up a momentum of success that will be so visible that it will keep growing. Undoubtedly, there are those who will be skeptical of the results to be achieved, so that the necessary federal funding can be obtained. But these doubts cannot be allowed to delay this action if one only considers the societal impact of a 15 percent annual functional illiteracy rate among the nation's high school graduates and the great increase in crime by young people who share the common characteristic of school failures. The dollar cost to society is incalculable. And then, of course, beyond the material cost is the human hardship, the frustration, the despair, and the alienation.

It was unthinkable for me to pass up this opportunity to share these plans with you, even though they are yet in the formative stage. After all, you, more than any other group, are in the best position to apply the most advanced technology to replace the traditional methods that have failed in special education.

Advantages of PLATO

The major reason for the success of computer-based education in special education is that it provides a means of compensating for specific individual differences in students. In recent years, many educators have come to believe that aptitude can be thought of as the amount of time needed by a learner to attain mastery of a particular learning task, and that nearly all students can achieve that mastery if each is given the time needed. The utilization of PLATO with its tireless drill and practice and its flexible tutorial capabilities insures the student the time needed plus an unvarying high quality of instruction.

CBE has other advantages. CBE provides privacy. Students are not subject to the embarrassment of others knowing about their personal learning problems, a fact that came out earlier in the quotes of inmates that I read, a fact that appears again and again. Computer-based education materials support learner motivation by providing distinct, individualized learning goals. The student is able to see the ultimate goal as attainable because the CBE materials are arranged in a series of short-range goals. Motivation is further enhanced by PLATO's ability to keep the learner continuously informed of his/her progress. Control Data's PLATO curriculum or courseware also provides encouragement by providing correct answers and by praising correct answers and good performance--another very important motivating factor. In addition, our courseware is presented realistically, demonstrates the practicality of the content, and clearly shows that what is being learned actually will be used on

the job. There is much more to be said about PLATO and CBE, such as the graphic capabilities which make any learning experience more meaningful. But only by actually using CBE can one gain a full realization of its rich potential.

Conclusion

The major thought that I would like to leave with you is this: the past 30 years or so have produced a base of advancing technology that has the power to revolutionize the quality, productivity, and availability of education. The applicable technology are the electronic ones--television, radio, audio and video tapes and disks, computers, computer conferencing, cable TV, microwave and satellite transmissions, and, of course, computer-based education. Some of these technologies have been applied individually--some with high success, others with less; but all have contributed enough useful experience so that today we have the means to do what the present educational process does but to do it with capital intensity and with productive technologies, rather than trying to drive still harder a labor-intensive process that can only stagger under the loads of higher needs, higher expectations, and higher and higher costs. We don't have to wait. The means I described already are in use in a national network of learning centers operated by Control Data. Eventually, there will be a number of other networks, and they will soon include the use of cable TV. The system I am talking about is computer-controlled, and the main method of delivery is computer-aided instruction with integrated terminal subsystems that include video disks, audio input and output, and touch input. Structured computer conferences of up to 40 students can be held, or single students can interact with another. CBE education, and virtually all other areas of education, will develop over the next five years as the cost of traditional education rises and CBE costs decrease. The Department of Health, Education, and Welfare figures show that traditional instruction

costs have been rising at an annual average compounded rate of about 8.2 percent. As a matter of fact, in the last three years, they have risen 13 percent. On the other hand, the costs of technology for CBE are decreasing about 5 percent per year, coupled with an annual 10 percent improvement in performance. Vocational schools today should begin using computer-based education for remedial help on a routine basis. Two or three CBE terminals connected to the national learning network are sufficient. Not only can a much more effective job be done with special education problems, but experience can be gained for moving ahead sooner and more efficiently in using CBE technology to assist with the entire curriculum. Altogether it represents the most exciting prospect for universal education that the mind of man has ever dared to dream.

Those are my comments. Thank you.

CHANGE AND THE IMPACT OF CHANGE ON COMMUNITY COLLEGES

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The community college, as an institution, is a living, growing, changing organism. Like any organism, it struggles to identify a purpose to justify its existence. It lives in a sometimes friendly, sometimes hostile, and always challenging environment. It is a reflection of the impact of that environment and of its own efforts to maintain its internal homeostasis.

Born not too many years ago, conceived by the slow response of the nation to the new aspirations of postwar affluent America, the community college is young, vigorous, sensitive, and unsure. A link, it rests between the yesterdays of the teen and the tomorrows of the adult. An ombudsman, it juggles the needs and desires of the community it serves with the demands and urgencies of a maze of regulations.

Like any organism, it has likes and dislikes; it takes strong, purposeful strides; it falters and stumbles. Growing fast and developing rapidly, it is consecutively perplexed and assured, solicitous and inconsiderate, joyous and dejected, the master and the slave of its environment.

The early years of the community college were exhilarating. Interest and excitement attended the parenting of this new educational progeny. Financial resources were available from a variety of sources; commitment to a task and the struggle to serve an avalanche of students carried its own reward. Being put to the test and coming out a winner created heady euphoria.

Developing schools, like developing communities, need energy, and it was plentiful.

Slowly a blend of inside and outside changes emerged--producing uncertainty and concern. What are the changes, the impact of change; and how does, should, will the community college respond? If we were to identify those groups with the most impact on community colleges, they might be--and not necessarily in order of importance--(1) state and federal agencies, (2) the local community, and (3) those who work in community colleges. We might even subdivide the groups and, under state and federal agencies, list any and all agencies who give money or who license or accredit--for to a greater or lesser degree they will be regulatory. Under local community, we could reasonably include the students, the local governing board, and the local taxpayer. Those who work in a community college include teachers, classified staff, and administrators. In each of these groups, changes affecting the institution have occurred. I am not altogether sure we have seen them coming.

It is a given that the commonality in all the groups, in all the communities, is people. Like the institution, they are living, growing, and changing; they have likes and dislikes, needs to help and be helped; needs to grow and mature, to be the masters of their fate. Retrospectively, we see change in the larger community affecting these groups--the Civil Rights movement, the anti-war movement, Women's Liberation, and Watergate. All of these, as Rod MacLeish pointed out in the *Smithsonian* "were defiances of the modern version of the doctrine of the greatest good for the greatest number. They all insisted upon the value of the individual life over bureaucratic government's policies, huge industry's needs, big labor's demands" (1976, p. 32).

I. *Changes*

What are some of the changes with which the community college is now beset?

Consider that the nation's 1,200 community and junior colleges enroll more than four million persons

in credit courses alone. The average age of these students is 29. More than half of all community college students, 2.2 million, are part-time students. Additional large numbers of part-time students are enrolled in noncredit courses. We know it takes four to five part-time students to equal one full-time equivalent student; we know that one of these FTEs is driving four to five more cars; using four to five more parking spaces; creating four to five times more foot traffic; necessitating more class scheduling at different times, in different places for different reasons; requiring four to five times more student records; and using more part-time teachers with more cars for more parking spaces, creating more teachers' records, using more faculty office space in less room, with less money and fewer administrators.

Or consider the decided drift towards greater state control. Martorana and McGuire, in this month's issue of the *Community and Junior College Journal*, tell us, based on a survey of legislation implemented between 1973 and 1975, that state control of public community colleges is increasing. The authors conclude their article by saying:

> The analysis of the reported legislation of the several states reached in the study supports the conclusion stated at the outset of this article [a trend toward state control of public community colleges]: the issue of how best to balance the state level and local level control to achieve a statewide system of postsecondary education is not yet effectively resolved: the extent to which community and junior colleges will be helped to grow in scope and depth of effective public service in such statewide systems of postsecondary education is also unclear; and collective bargaining is demanding more attention as it becomes increasingly the means whereby faculty voice in institutional governance is expressed (1976, p. 17).

How about the new legal battleground of students' suits for instructional malpractice? The editorial in a recent edition of The *School Law Newsletter* entitled "Academic Malpractice: The Implications" has this to say:

> An emerging trend finds more and more students challenging academic decisions within institutions and in the courts. Through these consumer suits, students are charging schools and colleges with "academic malpractice" which may be defined as "improper, injurious, or negligent instruction and/or action which has a negative affect on the student's academic standing (vol. 6, no. 2, p. 208).

The conflict embroils four parties--students and faculty directly, and administrators and trustees indirectly. At present, the following facts are discernible: (1) under the standards of academic freedom, faculty members have historically had a near "god-like" authority in the areas of instruction, evaluation, and other academic matters--but this authority is being challenged; (2) within the new consumer movement, students are now demanding the right to fair and adequate instruction, evaluation, etc., for fees paid; (3) administrators are caught in the middle, having the responsibility to protect academic freedom for the faculty and to assure fair and adequate instruction for students; and (4) trustees have historically not been involved in such academic matters but now find themselves legally and sometimes financially liable for all institutional decision making, academics (e.g., instruction and evaluation) being just one area.

This trend has many serious implications for institutions, including the following: (1) school and college catalogs/publications, now considered contractual documents, must be edited with greater care, for they may be legally binding; (2) within educational units (e.g., a department), academic standards will have to become more uniform, published, and available to students; (3) specific course requirements and evaluation procedures will have to be published and distributed to

students at the beginning of each class; (4) academic due process procedures--including binding arbitration--will have to be established in each institution to keep routine grievances out of the courts; and (5) in-service education programs will have to be provided for faculty members who tend not to be adequately informed of the legal consequences of academic malpractice.

While courts have recently been hesitant to overturn academic decisions made by educators, it appears that this traditional position is beginning to change due to the many penetrating questions that are being raised in the student consumer suits. Currently the burden is upon the student to prove that the institution acted in bad faith. However, as students retain competent lawyers, with special training in education law, the number of academic malpractice cases has to increase. The targets will be all academic decisions; and, while the application of consumer rationales to academics may be a blow to collegiality, it will definitely force up the level of accountability in educational institutions. Now is the time to prepare!

Consider our economic base--some bad news and some good. The editor of *Change*, George W. Bonham, in an editorial introducing a special report called "The Financial State of Higher Education," says:

> Many campuses, including some good ones, are edging toward serious trouble, and not incidentally, so are our hospitals and most other human service institutions. The larger question to be answered is, What deserves preserving and what does not? The prospect of bankruptcy in and of itself should not be cause for automatic public resuscitation, unless a strong case can be made that the public good would be seriously impaired by the loss. Though the survival rate of even the frailest academic needs is almost legendary, this report is a poignant reminder of how many colleges are now holding on by their fingernails (1976, p. 20).

The authors of the report, Andrew H. Lupton, John Augenblick, and Joseph Heyison, in charting the financial conditions of all institutions, say that almost one-half of all academic institutions can be considered to be in an unhealthy condition. When considering the financial condition of all institutions by size, they say that as with nonacademic organizations, greater size is a major contributing factor to financial health. The report further indicates that public two-year community colleges were found to be the healthiest due to financial support from both state and local government, low tuition rates, curriculum sensitive to local needs, geographic proximity to students, and ability to serve the part-time student.

Consider the action of The Illinois Board of Higher Education. In a September 1976 report, the Board addresses lifelong learning as a major educational theme, as longer life and better health allow more individuals to develop new interests and careers, as more individuals seek to escape the routine of a highly structured environment, as job obsolescence requires more or less continuous education, and as fiscal austerity and severe competition for the public funds suggest more delivery systems that are not placebound.

The list of changes is long and growing longer. With all of these changes and their subsequent impact on community colleges and with occupational education being a large part of the curriculum in community colleges, it seems to me occupational education feels the impacts sooner. We most certainly feel state control sooner, fiscal cutbacks sooner, community needs sooner, and most likely will encounter the long arm of the law sooner.

However, it is my view that the most disturbing change has been longer in coming, more subtle in appearance, and that it will be--and in many cases already is--the most explosive and difficult to deal with. The Kiplinger Washington letters over the past several months have listed judgments of hard-boiled industrial managers who are responsible for assessing what the future holds and for making plans to meet it. These managers see work attitudes changing and the

pace of change accelerating. A job is seen as a means, not an end. There is more resistance to regimentation. "Hop to" is giving way to "why" because, over the next 10 years, many more people will be more highly educated and will have a new set of attitudes, higher self-confidence, less willingness to accept authority, and more willingness to ask questions and to act and rectify faults as they see them.

It is my contention that what industrial business managers see coming over the next 10 years, educational institutions are already in up to their necks. The significant difference is that industry sees it coming and is attempting to prepare for it--we are in it and unprepared. The symptoms are angry, hostile colleagues and employees, by which I mean administrators, faculty, and classified staff. It is evident across the country in half-done jobs, minimal performance, unions, lawsuits, strikes.

II. *Need for New Management Structures*

Given the external changes previously noted, it could be the only resources we have for potential growth and intelligent adaptation to these changes are our human resources. The people who are in and are part of the institution must grow and expand for the institution to grow and respond. Facilitating that is management's most critical and far-reaching challenge. I submit, the responsibility, the mandate of every administrator, every executive, is to promote the growth and development of every person who works with them--and I did not say under, for that to me is a nonhuman word. I further submit a second mandate is that of teaching and assisting individuals to resolve problems productively so that energy generated--usually emotional energy--is channeled to propel the individual, and the institution, to new and greater heights.

The difficulty lies in the total unpreparedness of educational administrators to meet this challenge. In my view educational administrators have become crippled

under the weight of outmoded, obsolete management structures and, in some cases, destructive methods of leadership in a managerial system built for defeat. As I look at colleges, I too frequently see the old German imperial high command staff plan in operation--bureaucracy based on the military model that assumes control by whoever is at the top. Built right into this authority model is the power struggle orientation with its infighting empire building, rivalry, and sense of futility. Control becomes the dominant theme. Control of people through the carrot-and-stick reward-punishment jackass philosophy of management.

It is a philosophy that assumes people are stubborn, willful, unwilling to work, untrustworthy, and stupid; a philosophy that believes it possible to control behavior and to reward for accomplishment and punish for failure. It has always perplexed me that administrators who operate under this management philosophy complain bitterly that their subordinates are ungrateful, yet become resentful, angry, and guilty when they, in turn, are offered a carrot or are given the stick by those above them. A thinly disguised form of this philosophy is paternalism, typified by the father figure who seeks to instill loyalty and gratitude--and guilt feelings--by giving employees those kinds of benefits they neither want or need.

Within a bureaucratic structure and a carrot-and-stick management philosophy, we frequently encounter the "military-church leader" who claims power through his office, pressures people into conformity, and molds them at the expense of their individuality and originality. Or we may find the charismatic leader who focuses attention on himself, who functions in a crisis-oriented environment, and who, if there is not a crisis at the moment, will invent one. This personal style is neither conducive to the growth of subordinates nor to organizational survival.

Behavioral scientists have developed a number of management strategies to motivate people and I am sure you are familiar with theory X and theory Y, the managerial grid, self-actualizing man, group dynamics, MBOs, participative decision making, job enrichment,

organizational development, etc., etc. The result, to date, has been increasing management confusion and uncertainty and a crisis in motivation that permeates organizations. The refusal to consider people as individuals with different needs in different circumstances, plus the continuing use of the reward-punishment theory as a basis for resolving internal difficulties, prognosticates failure. To a great extent, the aforementioned management strategies are based on the jackass philosophy. In light of educated America and the insistence on the value of individual life over bureaucratic systems, management methods that do not consider each person as an individual within the framework of that individual's needs are fraught with peril.

I know of no doctor practicing medicine who treats two patients identically. The medical profession has long recognized that individuals have similar anatomical structures, but unique personal structures. What works for one patient might not work for another. There are no blanket treatments for any disease. To be sure, there are similarities; to be sure, one appendectomy bears a striking resemblance to another; but there are no identical appendectomies. The medical profession has come a long way in developing the differential method of treating people, of diagnosing illness, of prescribing medicine, of tailoring the prescription to fit the individual. The failure of management strategies is the failure to differentiate--it is the attempt to treat pathology with a mass cure-all, and it has been ineffective.

We hear much about American apathy. People are urged to go out to vote, work for political parties, engage in civic enterprises, call their congressman, write to their senator. Consider the absence of apathy in the women's movement, teacher strikes, lawsuits against colleges, and those activities to which people devote energy that directly and immediately affect their individual lives.

III. *Need for New Management Style: A Psychological Stethoscope as the Means of Equilibrium*

Thus far, we have discussed external changes in the form of greater state control, community colleges and the law, the financial state of higher education, lifelong learning and internal changes in terms of our work force. What I am saying, in short, is that the community college as a living organism must first restore the equilibrium of its internal environment, or the response to external changes such as greater state control, greater litigation, financial constraints, lifelong learning, and changes in our work force will be feeble and palsied. Given the rapidity and quantity of external changes, we need internally the energy and vitality to respond with the speed of summer lightning, and this implies a healthy institution.

Levinson, in *Organizational Diagnosis*, calls an organization "a living system. It has components which, taken together, comprise its whole. These components interact with each other and the whole with other wholes and its own environment. It grows and develops, has a history, experiences crisis, and adapts. An organization then is like any living system" (1972, p. 4).

Levinson is one of a very small group of psychoanalytically trained clinical psychologists doing research in the area of man and the organization. I believe it is to these researchers we must turn for help. What we have been deluged with, to date, are studies by behavioral scientists who have looked at man or the organization from the recesses of academia. The new group looks at man and the organization from the vantage point of mental health and has developed the concept of the "psychological man"--the psychological man who spends one half of his waking hours at work, the psychological man with feelings so powerful, so consuming they can destroy the individual and the institution.

If, as Levinson theorizes, feelings are microscopic, toxic agents and the primary precipitants of behavior, our concern has to be how the organizations affect people and their feelings and vice versa. How do we

affect people? How does the organization affect us? Are we contributors to the creation of a toxic work environment, an environment that everyone, including ourselves, becomes the victim of? Levinson identifies four major feelings with which all of us must deal. The first is love, the ability to give and receive affection; the second is hate, the inborn animal instinct necessary for the survival of the species; the third, dependency, the need to depend upon someone and to be depended upon by someone; and fourth, self-esteem, the central variable, the difference between how a person perceives himself to be and how he perceives he ideally ought to be.

What do these personal feelings have to do with the work environment? In his studies of mental health in industry, Levinson found that whenever a person is deprived of his sources of love, of giving and receiving affection at work, whether it be removal from a congenial work setting; change in the work process with which he is identified; physical transfer to another section; promotion; loss of opportunities to banter with friends; or loss of help from supervisors, peers, or subordinates, there is no escape from the fact that equilibrium will be altered. Hate, most notably demonstrated in anger and hostility, causes people to react in ways detrimental to the organization, to themselves, or both. This forceful feeling is aroused by unfair criticism, by attack, by poor planning, by treating a person like an idiot. Dependency in the work environment is a two-faced coin. If people are made to feel too dependent, they feel like children and resent the implication. On the other hand, there are times when all of us need support. We need support from others, and we need to be able to support others--for in all of us there are moments of strength and moments of weakness. Whenever self-esteem, as Levinson points out, is lowered by contempt, by arbitrary changes in a person's work patterns, work relationships, or his ability to be in charge of what is happening to himself without having to consult his superiors, he inevitably feels he is being treated as a jackass. Lowered self-esteem stirs up anger within an individual and between himself and others. If he is conscientious

and cannot sabotage the product or the organization, he will sabotage himself. Sickness, absenteeism, and accidents will increase and must be viewed as withdrawal phenomena requiring investigation.

I believe all of this research says something to us about arbitrarily scheduling classes, assigning offices, recommending policies, scheduling faculty, assigning people to committees, evaluating faculty and classified staff, determining salary increments, improving physical environment, and, in fact, involves every ramification of our dealing with people.

If the most powerful motivating force for man is the attainment of his ideal best, then it follows that maximum work performance will be achieved when he is helped to reach his goal. In my view we must seek out each person's own motivational force and create conditions under which that person can grow and develop in the work environment. We need to simultaneously identify institutional goals that need to be promoted or realized, and we need to link the motivational force to the institutional goal. Combining individual and institutional goals results in dedication and commitment above and beyond most expectations.

As administrators we must train ourselves to recognize the symptoms of a disturbance in the equilibrium of man. We need to become acute observers of those with whom we work; we need to be able to discern how people individually cope with these four feelings. We need, Levinson says, to develop a psychological stethoscope. Above all, it is incumbent upon us to analyze ourselves to find out how our actions affect those around us and how we, in turn, are affected by others. We need to diagnose our own problems with the organization and seek ways to resolve them. We need to change that which can be changed and successfully adapt to that which cannot be changed. If nothing else, knowledge of the kind of an organizational structure we are part of, the management philosophy we work under, and the leadership style we follow will give us some insight into where we are; from that point we can determine how we will proceed.

We add another dimension to the study of psychological man if we subscribe to the theory of Eugene Jennings of Michigan State University. Jennings, in speaking of stress, talks about the arena of life and notes there are four sides and four points to this diamond-shaped area--the four points of potential stress; i.e., (1) the work situation; (2) the family; (3) church, society, or community; and (4) self. He contends a person can withstand simultaneous crisis in one or two areas, but will go down physically or psychologically if a third area is involved.

It would seem to logically follow that our concern for our fellow man becomes a concern not for man at work but for man as man. To think the home does not affect the work is sheer naivete. I am not suggesting it is our place to practice psychology, but I am suggesting that when man at work needs support he needs it, and failure to respond could precipitate hostility and anger.

Interestingly, in speaking of learning skills and strategies to develop what he calls "stress intelligence," Jennings has outlined skills and strategies I would see as indispensable parts of a psychological stethoscope. Consider the following strategies--taking time to get into the other person's world to see where he or she is coming from; assuming responsibility for understanding the other person better than you can expect him to understand you; collecting 90 percent of the information you need to identify problems before they become crises; living in two realities, i.e., context and momentary events, by using a third eye and third ear to see ourselves as objects while we are in a situation having relationship sense, i.e., being aware of what we are doing to other people in the big picture and of what they are doing to us.

The skills, as viewed by Jennings, include listening versus talking--the function of listening to get information, the function of talking to give information so as to get more information. Questions versus answers. The function of questions is not to get answers but to gain information. Requesting answers limits the information received. Jennings cautions against

using questions to seduce or intimidate. Meanings versus words--never let words entirely represent meanings. Becoming increasingly more important are nonverbal communications, because negative feelings emerge nonverbally and stress effects can be read.

It has somewhat puzzled me that people display a great deal of discomfort when the conversation turns to nonverbal communication. Nonverbal cues are probably our most honest form of communications. I believe it is an area with which we need to be thoroughly familiar. It is part of the ability to be carefully observant and becomes an integration of our capacity to react to the needs of others.

IV. *Conclusion*

Given the best of all possible worlds, the organizational structure of the community college would place people in those work environments, in those work climates, with those kinds of work relationships that would best support their growth and development. The management philosophy would be based on the psychological man.

As it is undeniable that an organization must have structure, it is equally true it must have leadership. I would opt for leadership that would be altruistic, leadership whose thrust would not be the pursuit of power but would focus on building strength in the organization and those within it.

The organization must have a philosophy, a mission, and goals. There must be standards of excellence and there must be quality control. To all of these I heartily subscribe.

And what of the future and future changes, future external impacts? We already have "paper community colleges" in Illinois, community college districts formed as districts with no faculty, no buildings, few administrators, districts that contract for educational services for their students.

We have a prominent Chicago architect advocating that school districts rent buildings instead of

building campuses. A school building meeting state requirements and school district needs, in some cases, could be financed by a group of private investors and built more cheaply and in less time than if it were built under public supervision. The architect bases his projections on his experience with Chicago schools, where he said schools could be completed in 11 to 15 months when the architect was employed by a successful contractor rather than the Board of Education.

In a recent magazine article, Erik Barnow tells us:

> You may decide to take a university course, prepared and stored in an electronic repository--each lesson as and when you need it can be summoned by your push buttons. When ready, you can order the exam, question after question will appear on your telescreen, to be answered by push button and the sequence will be climaxed by your grade which will at once be recorded somewhere in a data bank. For intensive study, you may want some information on paper rather than on the screen. Pushing the right buttons, you can bring it spilling out in the form of a printout (1976, p. 79).

Or we may want to take a look at the health care field and ask ourselves some disquieting questions. The *Wall Street Journal* ran an article entitled "More Hospitals Turn Administration Over to Outside Companies." It appears an increasing number of hospitals are finding contract management an attractive alternative to the single administrator. About 130 hospitals have signed contracts with such companies as Hyatt Medical Management Services, a subsidiary of Hyatt Corporation.

This paper may be better remembered for its omissions than its content. In addition to dealing with the unique problems of occupational education, we, as occupational educators in a community college, deal with the universal problems of that college sooner or later, to a greater or lesser degree.

Our focus is students and the preparation of the student to productively interact with the environment. A student can hardly be motivated to learn when an instructor is not motivated to teach. Enthusiasm being a contagion, if acquired by the teacher outside the classroom, it will rapidly spread inside the classroom.

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CONCLUDING REMARKS

Robert Sheppard
Division of Two-Year Programs
Pennsylvania Department of Education

Ladies and gentlemen, let me say a few words in closing.

When we come to a conference such as this, we hear ideas we have heard before; it is hoped we hear some new ones as well, or at least hear the old ones put into a new perspective. Trying to sift out what is important from this mixture is a task we all undertake as we return to the day-to-day world of work.

Let me ask you, in an attempt to sift what you have just heard, to imagine that the ideas put forth here are ones you would have heard 10 years ago. That 10 years ago you would have heard of PLATO computer instruction being delivered nationally now and possibly world-wide 10 years into the future. That 10 years ago you would have even heard of world-wide adult education. That 10 years ago such a movement as career education, with its implications for changes in attitudes and relationships between the world of work and the world of education, would occur. That you would be dealing with these changes in your institution, trying to manage and educate in such an environment. If you had heard 10 years ago that *all* of this would be occurring simultaneously and to you, would it not have seemed from the vantage of foresight that the ideas presented, while they have begun to dull a little now by familiarity, demonstrate significant change occurring now and into the future?

Looking ahead, consider what in 10 years might develop from the ferment of changes that have been discussed at this conference? Will PLATO actually

become world-wide or even nationwide in all institutions and other locations that can benefit from it? Will world-wide adult education change the attitudes of people in other countries toward their government and toward our government? Will it, in the United States, contribute toward a more informed and active citizenry? Will the attitudes embodied in career education begin to change attitudes of all Americans toward school and work and the relations between them and our lives? Will we begin to develop a new model of the academic administrator with his stethoscope ready to motivate those in his/her institution?

To focus on the present as another way of putting the conference into perspective for yourself, consider that a striking aspect of all of the papers given at this conference is that many of them deal with values. The values that educators must have in order to educate well and morally, the values that must be changed in the public in order to cope with changes that have occurred in the society between education and work, and the value changes that might occur in those educated. It might be well to consider how you as an educator stand now and will stand in relation to these value questions 10 years into the future. Will you have been able to adjust your own values, the values of others, or to at least accommodate in some small way to those changes you feel are worthwhile? Will you have been able to accommodate those others that are thrust upon you?

I hope this conference has helped to clarify for you and to better inform you about developments in education and to reinforce or to redirect your own thinking about what your response might be as an educator in a country that is clearly in the center of the educational maelstrom. I feel that these conferences are very valuable to us as professionals. I look forward to seeing them continue and to seeing you again next year.

Finally, I would like to thank all of you who have taken the time from your busy schedules to attend. To the speakers a double thank you for informative and provocative discussion.

Appendix A: Conference Program

EIGHTH ANNUAL CONFERENCE
ON POSTSECONDARY OCCUPATIONAL EDUCATION

October 6-7, 1976
J. Orvis Keller Conference Center
The Pennsylvania State University

PROGRAM

THEME: ACCOMMODATING CHANGE IN POSTSECONDARY OCCUPATIONAL EDUCATION

Wednesday, October 6, 1976

10:30 a.m. Registration - Lobby, Keller Building

11:30 a.m. Lunch - Multi-purpose Room, Ground Floor, Keller Building

12:15 p.m. Room 312-14, Keller Building

Host: S.V. Martorana
Professor of Higher Education and Research Associate
Center for the Study of Higher Education
The Pennsylvania State University

Welcoming Address: Henry J. Hermanowicz, Dean
College of Education
The Pennsylvania State University

Kenneth P. Mortimer
Professor & Director
Center for the Study of Higher Education
The Pennsylvania State University

Robert Andreyka
Professor-in-Charge of Vocational-Industrial Education
The Pennsylvania State University

1:30 p.m. Session I

Chairperson: Jean Purvis, Past Chairman
Pennsylvania State Advisory Council for Vocational Education

Speaker: Kenneth Hoyt
Director, Office of Career Education
U.S. Office of Education

2:30 p.m. Coffee Break

3:00 p.m. Session II

Chairperson: William Fedderson, President
Williamsport Area Community College

Speaker: Gordon Godbey
Associate Dean for Continuing Education
College of Education
The Pennsylvania State University

5:30 p.m. Cash Bar & Attitude Adjustment - Nittany Lion Inn, Fireside Lounge

6:30 p.m. Dinner - Nittany Lion Inn - Penn State Room

Host: Seymour Brantner, Associate Professor
Division of Occupational & Vocational Studies
The Pennsylvania State University

Speakers: Andrew Korim, Specialist
Postsecondary Education
Center for Vocational-Technical Education
Ohio State University

Lucille Thrane, Associate Director
Resource Development
Center for Vocational-Technical Education
Ohio State University

Thursday, October 7, 1976

8:00 a.m. Breakfast, Nittany Lion Inn - Penn State Room

9:15 a.m. Session III

Chairperson: Thomas Long, Associate Professor
Division of Occupational & Vocational Studies
The Pennsylvania State University

Speaker: William Norris, Chairman
Control Data Corporation
Minneapolis, Minnesota

10:15 a.m. Coffee Break

10:45 a.m. Session IV

Chairperson: Robert Brown, Director
Mercer County Area Vocational Technical School
Mercer, Pennsylvania

Speakers: Kathleen Arns, Vice President
Occupational Programs
Oakton Community College
Mortongrove, Illinois

Robert Sheppard
Division of Two-Year Programs
Pennsylvania Department of Education

12:30 p.m. Lunch - Multi-purpose Room, Keller Building

NOTES ON THE AUTHORS

S.V. Martorana is research associate at the Center for the Study of Higher Education and professor of higher education in the College of Education at Penn State. Dr. Martorana has an M.A. and Ph.D. in education from the University of Chicago. Previously he has served in numerous administrative and policy-making capacities in higher education, particularly in the area of community colleges. He has published numerous books, monographs, and articles in these areas, among which are *State Boards Responsible for Higher Education* (with Ernest V. Hollis and *Managing Academic Change* (with Eileen Kuhns).

Thomas Long is associate professor of graduate studies and research in the department of vocational education at Penn State, where he also holds a joint appointment in counselor education and vocational education. Dr. Long holds an M.S. in counseling in education (college personnel work) and an Ed.D. in counselor education from Penn State. Prior to his appointment at Penn State he has served in various research and administrative capacities. He has published articles in the area of career and competency-based education and other aspects of curriculum.

Seymour Brantner is associate professor of industrial education in the department of vocational education at Penn State. He holds an M.Ed. in educational administration from Penn State and an Ed.D. in vocational education from the University of Pittsburgh. Prior to his appointment at Penn State he served as an administrator at a technical institute and in other areas of administration and supervision, his major area of interest.

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